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1. Introduction

The primary purpose of the Lake Tenkiller and Illinois River Recreational Use (LT/IRRU) study was to obtain current estimates of recreational use on Lake Tenkiller and the Illinois River and gain and understanding of uses and attitudes toward the river and lake. The study contained two parts: 1) a count of users at various recreation areas, and 2) an intercept survey of recreation users that collected information on type and amount of use, preferences, attitudes, and from where users were coming. This paper summarizes responses to survey questions on preferences and attitudes.

2. Design of the LT/IRRU Study

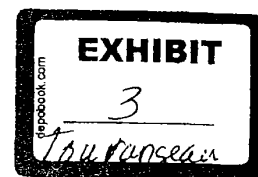
The LT/IRRU study took place from Memorial Day weekend, 2006 to September 17, 2006 and encompassed the recreation areas on Lake Tenkiller and the Illinois River in eastern Oklahoma. We estimate approximately 294,000 user days over this period. Sample sites were chosen based on vehicle accessibility and allocation of sampling periods was randomized. The following subsections provide information on the selection of reaches for the individual sampling periods and the selection of observation locations.

2.1 Selection of observation locations for sampling

Counts of recreation use were conducted at access points through which users had to pass in order to access the lake or river. Intercept surveys were completed at recreation areas on the lake and river. These locations were identified in a pretesting period that occurred over Memorial Day weekend, 2006. Due to limited roads, geography and vegetation/trees, lake access was almost exclusively limited to these recreation areas. The access points and recreation areas were grouped into sampling sites based on their proximity. There were ten sampling sites altogether, six on the lake and four on the river. The following two sections describe the sampling sites are Lake Tenkiller and the Illinois River.

2.1.1 Lake Tenkiller

We identified 17 major recreation areas along Lake Tenkiller that were grouped into six sampling sites. Fifteen of the recreation areas have only one access point through which all entering vehicles must pass. Two of the recreation areas, Elk Creek and Tenkiller State Park, have two access points. Car counts were conducted at each access point of the 17 recreation areas and surveys were conducted at each recreation area. Sampling sites consisting of two to



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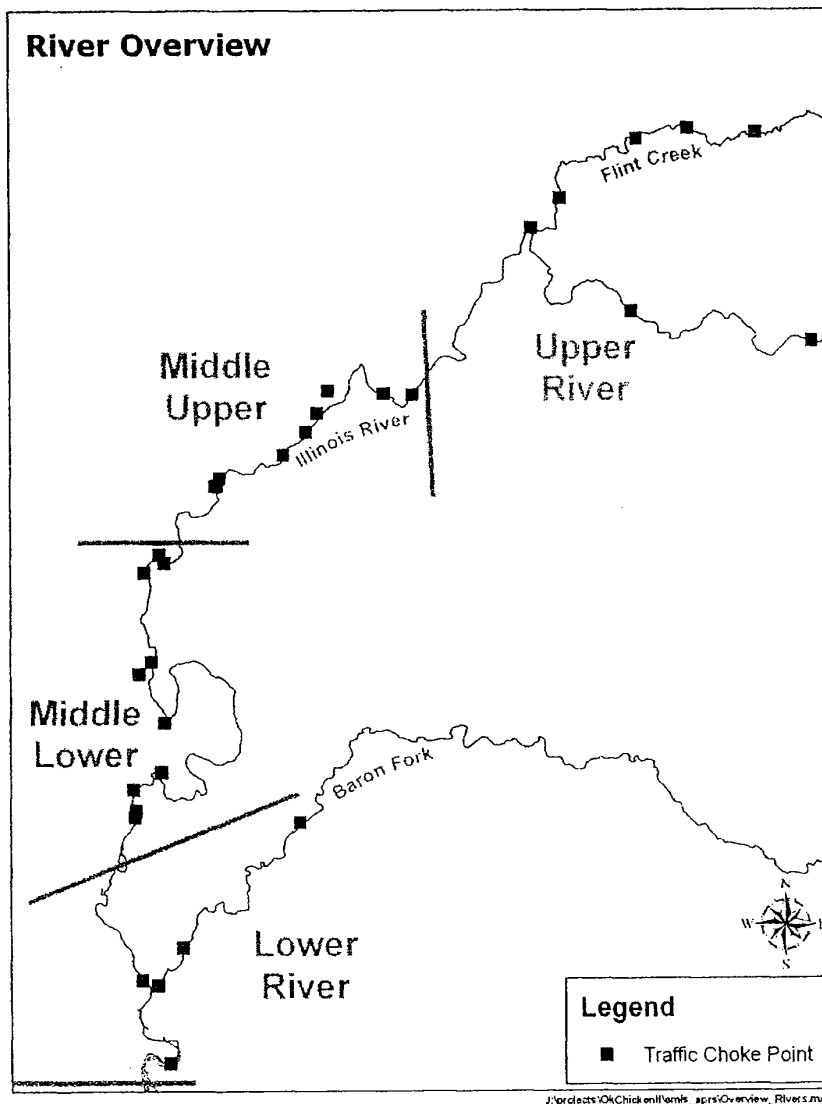
three recreation areas and their associated access points were selected based on distance and accessibility within an observation period. The observation locations used for LT/IRR study and the sampling site number are listed in Table 2.1 and presented in Figure 2.1.

Sampling location group	Recreation area
Lake Site 1	Petit Bay
	Cherokee Landing State Park
	Carter's Landing
Lake Site 2	Elk Creek
	Cookson Bend
	Caney ridge
Lake Site 3	Chicken Creek
	Sixshooter
	Snake Creek
Lake Site 4	Tenkiller State Park
	Cato Creek
Lake Site 5	Strayhorn Landing
	Overlook
	Marval
Lake Site 6	Sizemore Landing
	Burnt Cabin Marina
	Sizemore Cove

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2.1.2 Illinois River

Sampling of recreation on the Illinois River was divided into 4 areas: The Upper River, the Middle-Upper, Middle-Lower River, and Lower River. These sampling location groups and recreation areas are presented in Figure 2.2. The access points are noted.



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2.2 Development of the LT/IRRU study sampling schedule –

The LT/IRRU study sampling schedule included twenty four-hour-long sampling periods per week. During a sampling period, the survey agent would conduct car counts and intercept surveys at one observation group. Car counts were conducted at vehicle access points and intercept surveys at recreation areas.

Each four-hour sampling period was broken up as follows:

- ▶ Two hours were spent doing car counts at access points;
- ▶ One hour was spent conducting intercept surveys at the recreation areas;
- ▶ One hour was provided for travel between access points.

Car counts were conducted in intervals of 30 minutes each, for a maximum of four car counts within a sampling period. If there were more than four access points within an observation group then four were randomly selected.

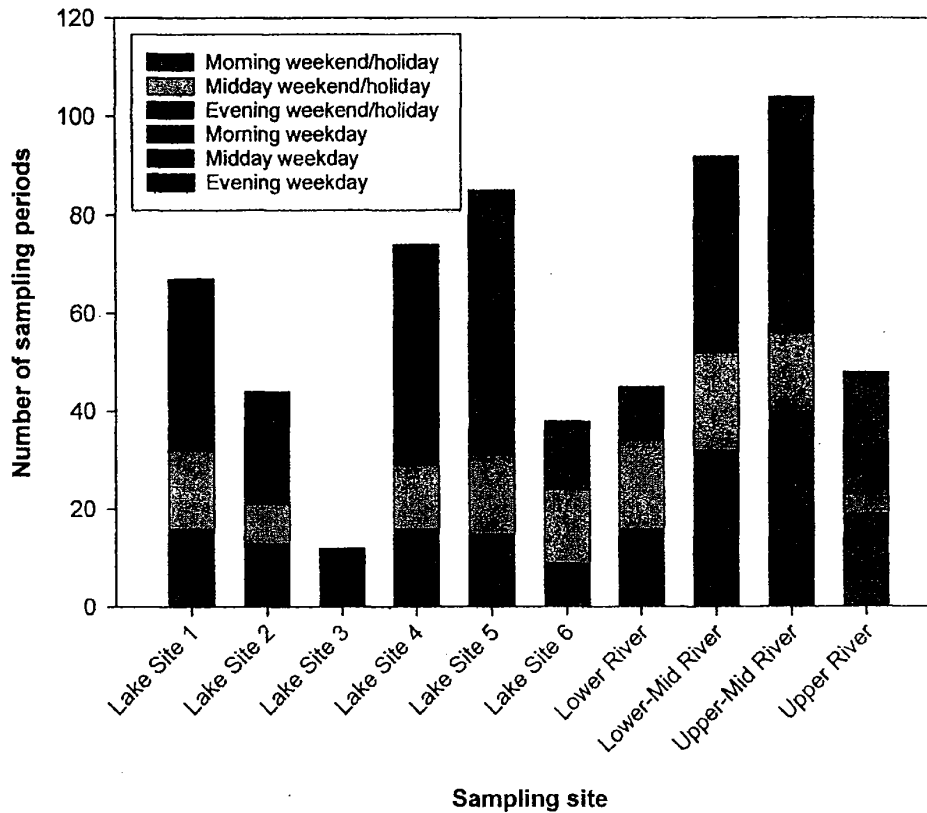
There were three survey periods per day:

- ▶ morning (7 am to 11 am);
- ▶ midday (11 am – 3 pm); and
- ▶ and evening (3 pm – 7 pm).

Weekdays and weekends received differential treatment (holidays are treated as weekends even if they fall on a weekday). Sampling periods were randomly allocated across days and times within the weekday and weekend-holiday categories. Figure X presents the sampling periods by site and time stratum.

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Sampling Periods by Site and Time Stratum

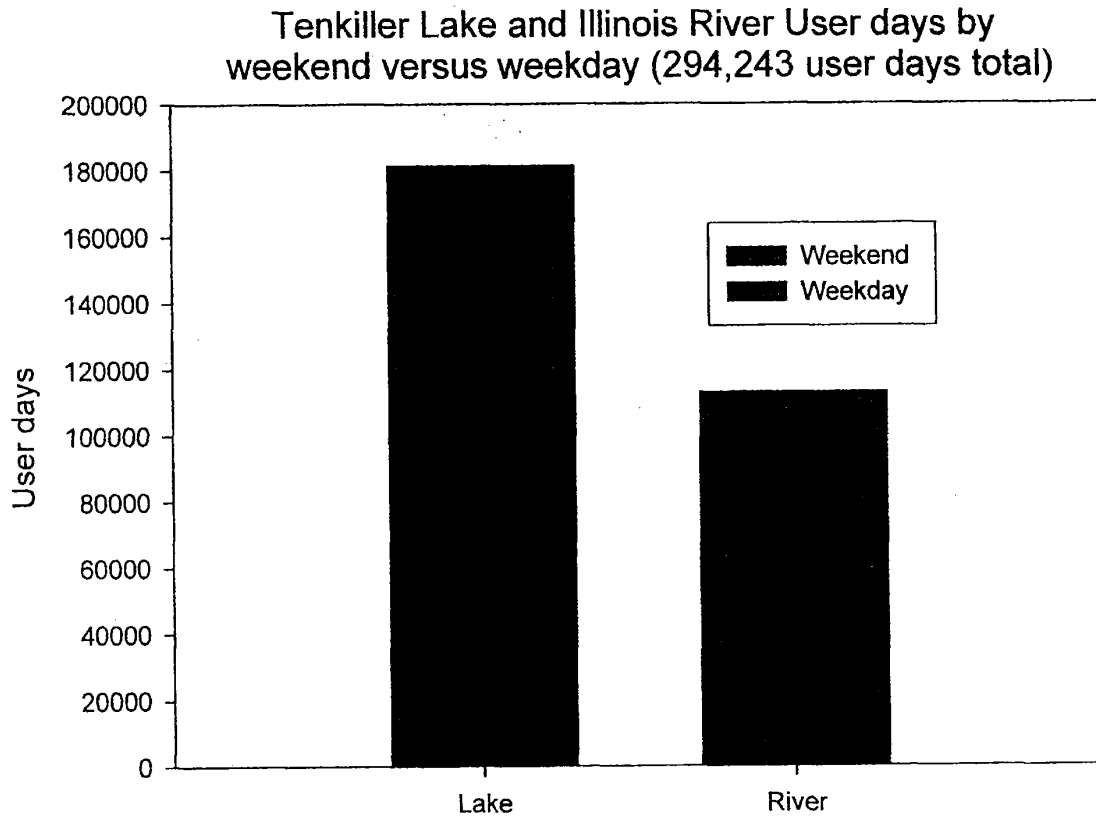


3. Raw user counts and scaled user days

As described above, cars were counted as they entered the choke points. Over the course of the study, 3,708 cars were counted entering choke points on the Illinois River and Tenkiller Lake. 2890 cars were counted on Lake Tenkiller and 818 on the Illinois River.

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These car counts were scaled into user days based on the number of people counted in each car, by responses to the survey questions regarding the length of trip, and by the total number of times a stratum could have been observed. The total estimated user days over the time period is 294,243. 181,286 of these user days occurred on the lake and 112,957 occurred on the river. Figure 3.1 presents the number of user days by weekend and weekday at the lake and river.



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4. Results of the LT/IRRU User Interview

A total of 441 recreators were intercepted during the study and 395 agreed to be surveyed. (See Appendix A for survey). 123 of these surveys were conducted on the Illinois River and 272 on Tenkiller Lake. The majority of respondents were from Oklahoma (371) or Arkansas (56). Responses to the attitudinal and preference questions are summarized in Tables 1 and 2, below.

Table 1. Responses to the question: What recreational activities are you doing today?.

Activities	Number of respondents		
	Illinois River	Tenkiller Lake	Total
Boat fishing	2	63	65
Shore fishing	22	40	62
Boating	2	119	121
Floating	56	7	63
Overnight camping	39	105	144
Day camping	15	33	48
Swimming	81	148	229
Sightseeing / nature-viewing / hiking	13	34	47

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Table 2. Responses to the question: Thinking specifically about the Illinois river/Tenkiller lake, are there one or two things that you particularly like or dislike about recreation here?

Activities	Number of respondents		
	Illinois River	Tenkiller Lake	Total
Convenience/close to home	62	67	129
Not congested	32	42	74
Accessibility	40	57	97
Good facilities/amenities	20	42	62
Good water quality	12	92	104
Natural beauty/aesthetics	53	123	176
\$1 cost to float Illinois River – is fair or cheap	4	1	5
Other Like	0	0	0
Total like	223	424	647
Trash/oil/debris (visible pollution)	38	43	81
Congested	11	8	19
Unruly users	14	15	29
Limited access/facilities	17	16	33
Poor water quality	6	8	14
Odor	0	1	1
\$1 cost to float Illinois River should be free	3	0	3
Other dislike	0	0	0
Total dislike	89	91	180

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Respondent were also asked how many days they have spent doing outdoor recreation in the past month in Northeastern Ok. These responses are summarized in Table 3.

Table 3. Responses to the question: Including today, how many days have you spent in northeast Oklahoma doing outdoor recreation away from your home in the past month, either here or anywhere else?

Location	# of days
Northeast Oklahoma	2289
Illinois River	585
Flint Creek	76
Baron Fork	31
Tenkiller Lake	1423

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Appendix A: Intercept Survey with Summary Statistics

ILLINOIS RIVER/TENKILLER LAKE INTERCEPT SURVEY

DATE: ____/____/2006 TIME: ____ am / pm DAY OF WEEK: M T W Th F Sa Su
Site: River # _____ Lake # _____ Traffic Choke Point Name: _____

Rain/Bad Weather: 1 No 2 Yes

#1 HELLO, MY NAME IS _____. I'M WORKING WITH THE STATE OF OKLAHOMA TO COLLECT INFORMATION ABOUT OUTDOOR RECREATION. COULD I ASK YOU A FEW QUESTIONS ABOUT RECREATION ?

1 No 2 Yes -----> If No, terminate interview *441 total surveys completed*

#2 WHAT RECREATIONAL ACTIVITIES ARE YOU DOING TODAY? (Circle all that apply)

1 = Boat Fishing 2 = Shore Fishing 3 = Boating 4 = Floating 5 = Overnight camping 6 = Day camping
7 = Swimming 8 = Sightseeing/nature-viewing/hiking 9 Picnicking 10 = SCUBA 11 = Other ____

see table 1 _____

#3 AT WHAT TIME DID YOU ARRIVE AT THE RIVER/LAKE TODAY?

Time: _____

HOW MUCH LONGER DO YOU EXPECT TO BE HERE TODAY?

mins

____ hrs _____

#4 HOW MANY TOTAL DAYS WILL YOU SPEND ON THIS TRIP?

_____ days *Average response = 1.59 days*

if multiple days → WHERE ARE YOU STAYING OVERNIGHT? ____ Outdoor camping ____ RV ____ hotel ____
other

#5 INCLUDING YOURSELF, HOW MANY PEOPLE ARE IN YOUR PARTY TODAY?

_____ #

(including self) *average response = 3.21*

#6 DID YOU COME TO THE RIVER/LAKE IN A VEHICLE?

If no → GO TO Q9

If yes → HOW MANY PEOPLE CAME IN YOUR VEHICLE? _____

#7 INCLUDING THE TIME THAT YOU FIRST ARRIVED, HOW MANY TIMES DID YOU DRIVE YOUR VEHICLE INTO THIS PARTICULAR RECREATION AREA?

of Times: _____

#8 HOW MANY DIFFERENT RECREATION AREAS HAVE YOU DRIVEN TO DURING YOUR VISIT?

Areas _____

#9 INCLUDING TODAY, HOW MANY DAYS HAVE YOU SPENT IN NORTHEAST OKLAHOMA DOING OUTDOOR RECREATION AWAY FROM YOUR HOME IN THE PAST MONTH, EITHER

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HERE OR ANYWHERE ELSE?

_____ Days Total

HOW MANY OF THESE DAYS WERE TO:

- Illinois River _____ Days
- Flint Creek _____ Days
- Baron Fork _____ Days
- Tenkiller Lake _____ Days
- Other site(s) (if mentioned _____) _____ Days

Days *see table 3*

#10 THINKING SPECIFICALLY ABOUT THE ILLINOIS RIVER/TENKILLER LAKE, ARE THERE ONE OR TWO THINGS THAT YOU PARTICULARLY LIKE OR DISLIKE ABOUT RECREATION HERE? (circle #, add comments)

- | | |
|---|--|
| Like 1 = Convenience/close to home | Dislike 21 = Trash/oil/debris (visible pollution) |
| 2 = Not congested | 22 = Congested |
| 3 = Accessibility | 23 = Unruly users |
| 4 = Good facilities/amenities | 24 = Limited access/facilities |
| 5 = Good water quality | 25 = Poor water quality (more info?) |
| 6 = Natural beauty/aesthetics | 26 = Odor (from what? _____) |
| 7 = \$1 cost to float Illinois River – is fair or cheap | 27 = \$1 cost to float Illinois River should be free |
| Other Like= _____ | Other _____ |

Dislike= _____

see table 2

#11 WE WOULD LIKE TO KNOW WHERE PEOPLE WHO USE THE RIVER/LAKE COME FROM. CAN WE HAVE YOUR HOME TOWN AND ZIP?

Code: _____

City: _____ Zip _____

#12 To better manage the Illinois River/Tenkiller Lake, we may want to contact you by mail or phone to find out more about recreation and your opinions. Any information provided will be kept confidential to this study. Would you be willing to help us?

- 1 No --> Thank respondent for taking the time to complete the questions. <<TERMINATE INTERVIEW>>
- 2 Yes --> Add Name, address, city, zip code, telephone number in notebook.

INTERVIEWER ADD: Q13 GENDER: 1 = Male 2 = Female Q14 AGE Group: 1 = Youth 2 = Adult 3 = Senior

Q15 For IL R., floater wristband visible? 1= None visible 2 = Yes COMMENTS